

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60  
61  
62  
63  
64  
65

~~DRAFT Amendment to IEEE Standard for  
Local and metropolitan area networks~~

~~Part 16: Air Interface for Broadband  
Wireless Access Systems~~

~~Enhancements to Support Machine-to-  
Machine Applications~~

~~Sponsor  
LAN/MAN Standards Committee  
of the  
IEEE Computer Society~~

~~and the  
IEEE Microwave Theory and Techniques Society~~

~~Copyright © 2010 by the IEEE.  
Three Park Avenue  
New York, New York 10016-5997, USA  
All rights reserved.~~



~~This document is an unapproved draft of a proposed IEEE Standard. As such, this document is subject to change. USE AT YOUR OWN RISK! Because this is an unapproved draft, this document must not be utilized for any conformance/compliance purposes. Permission is hereby granted for IEEE Standards Committee participants to reproduce this document for purposes of international standardization consideration. Prior to adoption of this document, in whole or in part, by another standards development organization permission must first be obtained from the IEEE Standards Activities Department (stds.ipr@ieee.org). Other entities seeking permission to reproduce this document, in whole or in part, must also obtain permission from the IEEE Standards Activities Department.~~

## 1 Introduction

2  
3  
4 This introduction is not part of IEEE Std 802.16p, IEEE Standard for Local and metropolitan area  
5 networks—Part 16: Air Interface for Broadband Wireless Access Systems - Amendment: Air Interface for  
6 Broadband Wireless Access Systems – Enhancements to Support Machine-to-Machine Applications.  
7

8  
9  
10 This amendment specifies support for Machine-to-Machine Applications. As of the publication date, the  
11 current applicable version of IEEE Std 802.16 is IEEE Std 802.16-2009, as amended by IEEE 802.16j-2009,  
12 IEEE 802.16h-2010, and IEEE 802.16m-2011.  
13

## 14 Notice to users

## 15 Laws and regulations

16  
17  
18  
19  
20  
21  
22 Users of these documents should consult all applicable laws and regulations. Compliance with the  
23 provisions of this standard does not imply compliance to any applicable regulatory requirements.  
24 Implementers of the standard are responsible for observing or referring to the applicable regulatory  
25 requirements. IEEE does not, by the publication of its standards, intend to urge action that is not in  
26 compliance with applicable laws, and these documents may not be construed as doing so.  
27

## 28 Copyrights

29  
30  
31  
32  
33 This document is copyrighted by the IEEE. It is made available for a wide variety of both public and private  
34 uses. These include both use, by reference, in laws and regulations, and use in private self-regulation,  
35 standardization, and the promotion of engineering practices and methods. By making this document  
36 available for use and adoption by public authorities and private users, the IEEE does not waive any rights in  
37 copyright to this document.  
38

## 39 Updating of IEEE documents

40  
41  
42  
43  
44 Users of IEEE standards should be aware that these documents may be superseded at any time by the  
45 issuance of new editions or may be amended from time to time through the issuance of amendments,  
46 corrigenda, or errata. An official IEEE document at any point in time consists of the current edition of the  
47 document together with any amendments, corrigenda, or errata then in effect. In order to determine whether  
48 a given document is the current edition and whether it has been amended through the issuance  
49 of amendments, corrigenda, or errata, visit the IEEE Standards Association website at [http://  
50 ieexplore.ieee.org/xpl/standards.jsp](http://ieeexplore.ieee.org/xpl/standards.jsp), or contact the IEEE at the address listed previously.  
51  
52

53  
54  
55 For more information about the IEEE Standards Association or the IEEE standards development process,  
56 visit the IEEE-SA website at <http://standards.ieee.org>.  
57

## 58 Errata

59  
60  
61  
62 Errata, if any, for this and all other standards can be accessed at the following URL: [http://  
63 standards.ieee.org/reading/iecc/updates/errata/index.html](http://standards.ieee.org/reading/iecc/updates/errata/index.html). Users are encouraged to check this URL for  
64 errata periodically.  
65

## 1 Interpretations

2  
3 Current interpretations can be accessed at the following URL: [http://standards.ieee.org/reading/ieee/interp/  
4 index.html](http://standards.ieee.org/reading/ieee/interp/index.html).

## 5 Patents

6  
7  
8  
9  
10 ~~*The following notice shall appear when the IEEE receives assurance from a known patent holder or*~~  
11 ~~*patent applicant prior to the time of publication that a license will be made available to all applicants*~~  
12 ~~*either without compensation or under reasonable rates, terms, and conditions that are demonstrably free*~~  
13 ~~*of any unfair discrimination.*~~  
14

15  
16 Attention is called to the possibility that implementation of this standard may require use of subject matter  
17 covered by patent rights. By publication of this standard, no position is taken with respect to the existence or  
18 validity of any patent rights in connection therewith. A patent holder or patent applicant has filed a statement  
19 of assurance that it will grant licenses under these rights without compensation or under reasonable rates,  
20 with reasonable terms and conditions that are demonstrably free of any unfair discrimination to applicants  
21 desiring to obtain such licenses. Other Essential Patent Claims may exist for which a statement of assurance  
22 has not been received. The IEEE is not responsible for identifying Essential Patent Claims for which a  
23 license may be required, for conducting inquiries into the legal validity or scope of Patents Claims, or  
24 determining whether any licensing terms or conditions are reasonable or non-discriminatory. Further  
25 information may be obtained from the IEEE Standards Association.  
26

27  
28  
29 ~~*If the IEEE has not received letters of assurance prior to the time of publication, the following notice*~~  
30 ~~*shall appear:*~~  
31

32  
33 Attention is called to the possibility that implementation of this standard may require use of subject matter  
34 covered by patent rights. By publication of this standard, no position is taken with respect to the existence or  
35 validity of any patent rights in connection therewith. The IEEE shall not be responsible for identifying  
36 patents or patent applications for which a license may be required to implement an IEEE standard or for  
37 conducting inquiries into the legal validity or scope of those patents that are brought to its attention.  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60  
61  
62  
63  
64  
65

1 **Participants**  
2

3  
4 This document was developed by the IEEE 802.16 Working Group on Broadband Wireless Access, which  
5 develops the WirelessMAN® Standard for Wireless Metropolitan Area Networks.

6 **Roger B. Marks, *Chair***  
7 **Jose Puthenkulam, *Vice-Chair***  
8 **Herbert M. Ruck, *Secretary***  
9 **Scott Migaldi, *Treasurer***  
10

11  
12 The following members of the IEEE 802.16 Working Group on Broadband Wireless Access participated in  
13 the Working Group Letter Ballot in which the draft of this standard was prepared and finalized for IEEE  
14 Ballot:  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60  
61  
62  
63  
64  
65

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60  
61  
62  
63  
64  
65

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60  
61  
62  
63  
64  
65

Yan-Xiu Zheng  
Hua Zhou

Lei Zhou  
Chenxi Zhu

Jing Zhu  
Peiying Zhu

Primary development was carried out by the Working Group's Task Group p.

TGp Leadership Team:

- Ron Murias**, Chair
- TBD**, Vice Chair
- TBD**, Secretary
- TBD**, Chief Editor, 802.16m
- Jin Lee**, Editor, System Requirements Document
- HanGyu Cho**, Editor, M2M Technical Report

The following members of the [individual/entity] balloting committee voted on this standard. Balloters may have voted for approval, disapproval, or abstention.

1 When the IEEE-SA Standards Board approved this standard on XX Month 2008, it had the following  
2 membership:

3 **Robert M. Grow, Chair**  
4 **Thomas Prevost, Vice Chair**  
5 **Steve M. Mills, Past Chair**  
6 **Judith Gorman, Secretary**

7  
8  
9 Victor Berman  
10 Richard DeBlasio  
11 Andy Drozd  
12 Mark Epstein  
13 Alexander Gelman  
14 William R. Goldbach  
15 Arnold M. Greenspan  
16 Kenneth S. Hanus

Jim Hughes  
Richard H. Hulett  
Young Kyun Kim  
Joseph L. Koepfinger\*  
John Kulick  
David J. Law  
Glenn Parsons  
Ronald C. Petersen

Chuck Powers  
Narayanan Ramachandran  
Jon Walter Rosdahl  
Robby Robson  
Anne-Marie Sahazizia  
Malcolm V. Thaden  
Howard L. Wolfman  
Don Wright

17  
18 \*Member Emeritus  
19

20  
21 Also included are the following nonvoting IEEE-SA Standards Board liaisons:  
22

23 Satish K. Aggarwal, *NRC Representative*  
24 Michael H. Kelly, *NIST Representative*  
25

26  
27 Your name here  
28 *IEEE Standards Program Manager, Document Development*  
29

30  
31 Your name here  
32 *IEEE Standards Program Manager, Technical Program Development*  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60  
61  
62  
63  
64  
65

1	1.	Overview .....	2
2			
3	1.1	Scope .....	2
4	1.2	Purpose .....	2
5			
6			
7	2.	Normative references .....	3
8			
9	3.	Definitions .....	4
10			
11	4.	Abbreviations and acronyms .....	5
12			
13			
14	5.	Service Specific CS .....	6
15			
16	6.	MAC common part sublayer.....	8
17			
18	7.	Security sublayer.....	9
19			
20			
21	8.	Physical layer (PHY) .....	11
22			
23			
24	9.	Configuration .....	12
25			
26	10.	Parameters and constants .....	13
27			
28			
29	11.	TLV encodings .....	14
30			
31	11.	System profiles .....	15
32			
33	16.	WirelessMAN-Advanced Air Interface .....	16
34			
35			
36	16.1	Introduction.....	16
37	16.2	Medium access control .....	16
38	16.2.1	Addressing .....	16
39	16.2.2	MAC PDU formats .....	16
40	16.2.3	MAC Control messages .....	16
41	16.2.4	Construction and Transmission of MAC PDUs .....	16
42	16.2.5	AAI Security .....	16
43	16.2.6	MAC HO procedures .....	16
44	16.2.7	Persistent Scheduling in the Advanced Air Interface .....	16
45	16.2.8	Multicarrier operation .....	16
46	16.2.9	Group Resource Allocation .....	16
47	16.2.10	Connection Management .....	16
48	16.2.11	Bandwidth Request and Allocation Mechanism.....	16
49	16.2.12	Quality of Service (QoS) .....	16
50	16.2.13	ARQ mechanism.....	16
51	16.2.14	HARQ functions .....	16
52	16.2.15	Network entry and initialization .....	16
53	16.2.16	Periodic ranging.....	16
54	16.2.17	Sleep mode.....	16
55	16.2.18	Idle mode .....	16
56	16.2.19	Deregistration with context retention (DCR) mode.....	16
57	16.2.20	Co-located coexistence (CLC).....	16
58	16.2.21	Interference mitigation mechanism .....	16
59	16.2.22	MAC control reliability .....	16
60	16.2.23	Power management for active mode.....	16
61			
62			
63			
64			
65			



1	16.2.24Update of S-SFH IEs .....	17
2	16.2.25Short Message Service.....	17
3	16.2.26Coverage Loss Detection and Recovery from Coverage Loss .....	17
4	16.2.27AMS deregistration.....	17
5	16.2.28Support for Multicast Service .....	17
6		
7	16.3 Physical layer .....	18
8	16.3.11Global Values .....	18
9		
10	16.4 Support for Femto ABS .....	19
11	16.5 Multi-BS MIMO .....	20
12	16.6 Support for Relay .....	21
13	16.7 Support for Self-organization .....	22
14	16.8 Support for Location Based Services (LBS).....	23
15	16.9 Support for Enhanced Multicast Broadcast Service .....	24
16	16.10Support for Advanced Air Interface in LZone.....	25
17	16.10.11Global Values .....	26
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		
32		
33		
34		
35		
36		
37		
38		
39		
40		
41		
42		
43		
44		
45		
46		
47		
48		
49		
50		
51		
52		
53		
54		
55		
56		
57		
58		
59		
60		
61		
62		
63		
64		
65		

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60  
61  
62  
63  
64  
65

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60  
61  
62  
63  
64  
65

1 **Amendment Working Document (AWD) to IEEE Standard for**  
2  
3  
4  
5

6 **Local and metropolitan area networks**  
7  
8  
9

10  
11  
12 **Part 16: Air Interface for Broadband**  
13 **Wireless Access Systems —**  
14  
15  
16  
17

18  
19  
20  
21  
22  
23  
24 **Enhancements to Support Machine-to-Machine Applications**  
25  
26  
27

28  
29  
30 NOTE-The editing instructions contained in this amendment define how to merge the material contained  
31 herein into the existing base standard IEEE Std 802.16-2009 as amended by IEEE Std 802.16j, IEEE Std  
32 802.16h, and IEEE 802.16m. The editing instructions are shown in ***bold italic***. Four editing instructions are  
33 used: ***change***, ***delete***, ***insert***, and ***replace***. ***Change*** is used to make small corrections in existing text or  
34 tables. The editing instruction specifies the location of the change and describes what is being changed by  
35 using strike through (to remove old material) and underscore (to add new material). ***Delete*** removes existing  
36 material. ***Insert*** adds new material without disturbing the existing material. Insertions may require renum-  
37 bering. If so, renumbering instructions are given in the editing instruction. ***Replace*** is used to make large  
38 changes in existing text, subclauses, tables, or figures by removing existing material and replacing it with  
39 new material. Editorial notes will not be carried over into future editions because the changes will be incor-  
40 porated into the base standard.  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60  
61  
62  
63  
64  
65

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60  
61  
62  
63  
64  
65

# **1. Overview**

## **1.1 Scope**

## **1.2 Purpose**

**2. Normative references**

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60  
61  
62  
63  
64  
65

### 3. Definitions

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60  
61  
62  
63  
64  
65

## 4. Abbreviations and acronyms

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60  
61  
62  
63  
64  
65



## 5. Service Specific CS

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60  
61  
62  
63  
64  
65

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60  
61  
62  
63  
64  
65

**6. MAC common part sublayer**

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60  
61  
62  
63  
64  
65

## 7. Security sublayer

2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60  
61  
62  
63  
64  
65

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60  
61  
62  
63  
64  
65

## 8. Physical layer (PHY)

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60  
61  
62  
63  
64  
65

## 9. Configuration

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60  
61  
62  
63  
64  
65

**10. Parameters and constants**

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60  
61  
62  
63  
64  
65



## 11. TLV encodings

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60  
61  
62  
63  
64  
65

## 11. System profiles

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60  
61  
62  
63  
64  
65

1 **16. WirelessMAN-Advanced Air Interface**  
2  
3

4 **16.1 Introduction**  
5  
6

7 **16.2 Medium access control**  
8  
9

10 **16.2.1 Addressing**  
11

12 **16.2.2 MAC PDU formats**  
13

14 **16.2.3 MAC Control messages**  
15

16 **16.2.4 Construction and Transmission of MAC PDUs**  
17

18 **16.2.5 AAI Security**  
19

20 **16.2.6 MAC HO procedures**  
21

22 **16.2.7 Persistent Scheduling in the Advanced Air Interface**  
23

24 **16.2.8 Multicarrier operation**  
25

26 **16.2.9 Group Resource Allocation**  
27

28 **16.2.10 Connection Management**  
29

30 **16.2.11 Bandwidth Request and Allocation Mechanism**  
31

32 **16.2.12 Quality of Service (QoS)**  
33

34 **16.2.13 ARQ mechanism**  
35

36 **16.2.14 HARQ functions**  
37

38 **16.2.15 Network entry and initialization**  
39

40 **16.2.16 Periodic ranging**  
41

42 **16.2.17 Sleep mode**  
43

44 **16.2.18 Idle mode**  
45

46 **16.2.19 Deregistration with context retention (DCR) mode**  
47

48 **16.2.20 Co-located coexistence (CLC)**  
49

50 **16.2.21 Interference mitigation mechanism**  
51

52 **16.2.22 MAC control reliability**  
53

54 **16.2.23 Power management for active mode**  
55  
56  
57  
58  
59  
60  
61  
62  
63  
64  
65

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60  
61  
62  
63  
64  
65

**16.2.24 Update of S-SFH IEs**

**16.2.25 Short Message Service**

**16.2.26 Coverage Loss Detection and Recovery from Coverage Loss**

**16.2.27 AMS deregistration**

**16.2.28 Support for Multicast Service**

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60  
61  
62  
63  
64  
65

**16.3 Physical layer**

**16.3.11 Global Values**

**16.4 Support for Femto ABS**

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60  
61  
62  
63  
64  
65

**16.5 Multi-BS MIMO**

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60  
61  
62  
63  
64  
65

**16.6 Support for Relay**

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60  
61  
62  
63  
64  
65



**16.7 Support for Self-organization**

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60  
61  
62  
63  
64  
65

**16.8 Support for Location Based Services (LBS)**

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60  
61  
62  
63  
64  
65

**16.9 Support for Enhanced Multicast Broadcast Service**

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60  
61  
62  
63  
64  
65

**16.10 Support for Advanced Air Interface in LZone**

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60  
61  
62  
63  
64  
65

**16.10.11 Global Values**

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60  
61  
62  
63  
64  
65